Docket Files
Rm 222

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FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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5 MAR 1993

IN REPLY REFER TO:

7330-7/1700A3

RECEIVED
MAR 24 1993
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Honorable James H. Bilbray
House of Representatives
319 Cannon House Office Building
Washington, D.C. 20515-5965

Dear Congressman Bilbray:

This is in reply to your letter of February 16, 1993, regarding the Notice of Proposed Rule Making (Notice) in PR Docket No. 92-235, 57 FR 54034 (1992). Specifically, you are concerned about the potential effect of the proposals for low power private land mobile radio users on radio control model airplane hobbyists.

In brief, we anticipate that these proposals will have no impact on model airplane users. Model airplane users have shared spectrum on a secondary basis with industrial users for over 25 years. The low power industrial user and the radio control model airplane hobbyists effectively share spectrum through geographic separation. We are enclosing the Report and Order in GEN Docket 82-181, 47 FR 51875 (1982), which provided the current 50 channels for radio controlled model airplanes. Until 1982, the only airplane channels were exactly co-channel with industrial users and, to the best of our knowledge, there has never been a case of interference between these classes of users. The current 10 kHz spacing was implemented to allow a major expansion of channels designated for radio control use and to protect radio controlled model airplanes from fixed high power operations. You will note, that in paragraph 11, the Academy of Model Aeronautics Inc. stated that industrial low power devices and radio control devices are compatible for spectrum sharing. Again, our experience is that this sharing arrangement allowed the expansion of the model aeronautics industry. Our proposals in the Notice would have no impact on this sharing arrangement.

We want to thank you for your interest. Your letter will be included in the formal record of the proceeding. Once all comments have been filed, we will [redacted]

Congressional

DUE OGC: 3-3-93

PLEASE MAKE 2 EXTRA COPIES OF INCOMING, ATTACHMENTS, AND REPLY FOR DOCKET FILE, ROOM 222.

CONGRESSIONAL CORRESPONDENCE TRACKING SYSTEM
02/22/93

LETTER REPORT

CONTROL NO.	DATE RECEIVED	DATE OF CORRESP	DATE DUE	DATE DUE OLA(857)
9300734	02/22/93	02/16/93	03/05/93	

TITLE	MEMBERS NAME	REPLY FOR SIG OF
Congressman	James Bilbray	BC

CONSTITUENT'S NAME	SUBJECT
personal view	inq. comments on PR Docket 92-235

REF TO	REF TO	REF TO	REF TO
PRB/Lamm			

JAMES H. BILBRAY
1ST DISTRICT, NEVADA

COMMITTEE ON
ARMED SERVICES

COMMITTEE ON
SMALL BUSINESS

SELECT COMMITTEE
ON AGING

PRB
92-235
734

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Congress of the United States
House of Representatives
Washington, DC 20515-2801

February 16, 1993

Donna Searcy
Secretary
Federal Communications Commission
Room #222
1919 M St, N.W.
Washington, D.C. 20554

Dear Ms. Searcy:

I would like to take this opportunity to express my concerns about proposed rules being considered by the FCC under Docket # 92-235. I am particularly concerned by the proposed changes which would create a massive frequency restructuring and cause adverse damage to the hobby and business activities associated with radio controlled model airplanes.

The proposed changes would affect control frequencies in the 72 - 76 MHZ band. This band is also used by private land mobile dispatch operations. However, at this time the bands are far enough apart to allow for no interference between these two users of the band. The proposed changes by the Fcc would not only narrow the band but in many cases cause the bands to overlap, causing a potentially dangerous situation.

These model airplanes have wing spans of up to ten feet and weigh as much as 30 to 40 pounds. Their size alone could cause serious property damage, injury or death if an operator loses control of the plane. These models are often flown at organized events where hundreds of planes participates. In order to insure a safe environment for spectators and controllers alike, a full complement of frequencies, without interference must be available to these controllers.

This obvious danger is admitted in the information that the FCC is providing inquirers into this docket. In the question and answer sheet that the FCC has provided my office it states, " We (FCC) can not categorically state that authorized mobile operations under the current proposed rules could never harm radio control operations." This admittance by the Commission along with the expressed attitude that, "radio control operations must accept interference from fixed and mobile users" relegates radio control operators to a second-class status that they not only not deserve but must not be branded with.

It is my firm belief that there are too many potential hazards to both the radio control community and the mobile and fixed radio

community that would be affected by this proposed rule. Clearly a great deal more thought must go into this rule in order to not only insure a safe environment but also to be fair to radio control operators.

I appreciate your time on this issue and a I ask that at this time this proposed rule not be included as part of Docket #92-235. I look forward to your favorable response.

Sincerely,

James H. Bilbray
Member of Congress

JHB:fm

history File

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

FCC 82-486
32237

In the Matter of

Amendment of Parts 2, 21, 22, 81, 87, 90 and 95 of the Commission's Rules to provide additional spectrum between 72 and 76 MHz	)	GEN Docket 82-181 RM-3248

control of models by licensees in the Radio Control Radio Service 5/ (All

interference then, Control Chief claims, if the R/C devices are operated close to an industrial plant.

11. In its reply comments the Academy states that the chance of interference to industrial low power devices from R/C devices is negligible. Aircraft models are not flown within several hundred feet of any obstructions, which means that an R/C transmitter would probably be several hundred feet away from any industrial plant containing a radio controlled crane or similar device, and would certainly be much further away from the device than the operator of the device. The Academy provides an engineering analysis which shows that this difference in distance along with the 10 kHz frequency offset from the 'even' channels used by the industrial control devices would prevent interference even in a "worst-case" where the flying field happened to be located adjacent to an industrial plant where radio control systems were being used. Further, it states that the signals which the two radio systems use are sufficiently different so that any interference from R/C devices would not cause the crane to malfunction. Furthermore, the Academy states there have been no reported cases of interference of this sort, to its knowledge, even though the two types of devices currently operate on 5 shared channels 8/ at 72 MHz.

12. In its comments, the Academy suggests three minor changes to the proposed rules: a) allow all types of non-voice modulation on the proposed R/C channels, b) add the list of proposed channels to Section 95.611 9/ and (c) modify the language for discontinuance of the use of the existing 72 MHz R/C channels after 5 years to clarify the liability of manufacturers for unauthorized use of the frequencies.

13. After the close of the comment period, Control Chief submitted written ex parte comments refuting several of the points in the Academy's Reply Comments. Control Chief states that some cases of uncommanded crane movement have been experienced; however, whether this was caused by radio interference and from what source could not be determined. Control Chief states that interference to crane operations could be more severe if the model R/C devices switch to the use of frequency modulation (FM), (they currently use amplitude modulation, AM). The crane radio devices use FM and Control Chief states that the equipment it manufactures would not be able to distinguish between two FM signals as successfully as it does now with the AM model radio control signal. Control Chief also states that the Academy's understanding of the "fail-safe" mechanism in some cranes that prevents uncommanded movement is incomplete. In these cases the crane stops when the carrier signal drops below a specified limit; a strong interfering signal, however, could provide the necessary signal level to keep the control circuit

8/ 72.08, 72.16, 72.24, 72.32, 72.40 MHz. These channels are shared on a secondary basis and are limited to use in manufacturing plants. (see Part 95.79(d) (1))

9/ Since Part 95 Subpart C (plain language R/C rules) are published separately from Subpart E, Technical Regulations, it would be helpful to have the complete list of authorized R/C frequenices in both Subparts to avoid the need for cross-referencing.

prevent the possibility of interference problems occuring. No comments were received indicating concern with interference to fixed operations.

19. On the question of interference to low power radio control devices for industrial operations, such as crane operation, it should be noted that the use of these control devices is limited to industrial plant sites.

27. For further information regarding this Order, contact James Vorhies (202) 653-9097, or Donald Draper Campbell, (202) 653-8177.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico
Secretary

Further, the following frequencies may be authorized on a primary basis for mobile operations in the Special Industrial Radio Service, Manufacturers Radio Service, and Railroad Radio Service subject to the condition that no interference is caused to the reception of television stations operating on channels 4 and 5; and that their use is limited to a railroad yard, manufacturing plant, or similar industrial facility.

MHz	MHz	MHz	MHz	MHz
72.44	72.52	72.60	75.48	75.56
72.48	72.56	75.44	75.52	75.60

3. In Section 2.106, the text of non-Government Footnote 56 (NG56) is revised to read as follows:

\+ + + + +

NG56 In the bands 72.0-73.0 and 75.4-76.0 MHz, the use of mobile radio remote control of models is on a secondary basis to all other fixed and mobile operations. Such operations are subject to the condition that interference will not be caused to common carrier domestic public stations, to remote control of industrial equipment operating in the 72-76 MHz band, or to the reception of television signal on channels 4 (66-72 MHz) or 5 (76-82 MHz). Television interference shall be considered to occur whenever reception of regularly used television signals is impaired or destroyed, regardless of the strength of the television signal or the distance to the television station.

\+ + + + +

B. Part 21 of Chapter I of Title 47 of the Code of Federal Regulations is amended, as follows:

1. Section 21.103 is amended by adding paragraph (g) to read as follows:

§21.103 Standards and limitations governing authorization and use of frequencies in the 72-76 MHz band.

* * * * *

(g) Mobile radio remote control of models may be found operating on frequencies 10 kHz removed from those frequencies authorized for fixed operation in the 72-76 MHz band. Such use by model radio remote control of models is secondary to operations of fixed stations as provided for by this section.

\+ + + + +

C. Part 22 of Chapter I of Title 47 of the Code of Federal Regulations amended, as follows:

G. Part 95 of Chapter I of Title 47 of the Code of Federal Regulations is amended, as follows:

1. Section 95.216 (R/C Rule 16) is amended by revising paragraphs (a) and (b), and adding paragraph (e) to read as follows:

§95.216 (R/C Rule 16) On what channels may I operate?

(a)Your R/C station may transmit only on the following channels (frequencies):

Frequency (MHz)	To operate:
26.995 27.045 27.095 27.145 27.195 27.255	Any kind of device (any object or apparatus except an R/C transmitter).
26.995 27.045 27.095 27.145 27.195 27.255	A model aircraft device (any small imitation of an aircraft).
72.01 72.03 72.05 72.07 72.08 72.09 72.11 72.13 72.15 72.16 72.17 72.19 72.21 72.23 72.24 72.25 72.27 72.29 72.31 72.32 72.33 72.35 72.37 72.39 72.40 72.41	[see paragraph (e)] [see paragraph (e)] [see paragraph (e)] [see paragraph (e)] [see paragraph (e)]

(b) * * *
(c) * * *

(d) Radio remote control of models is permitted on frequencies 10 kHz removed from these frequencies authorized for fixed and mobile operations in the 72-76 MHz band. Radio remote control operations are secondary to operation of fixed and mobile stations as provided for in this section.

\+ + + + +

E. Part 87 of Chapter I of Title 47 of the Code of Federal Regulations is amended, as follows:

1. Section 87.463 is amended by revising paragraph (a) and adding paragraph (b) to read as follows:

§87.463 Frequencies available to fixed stations.

(a) The frequencies listed in this paragraph may be assigned under the conditions set forth in subparagraph (1) through (6) of this paragraph. These frequencies are available on a shared basis with the Land Mobile and Stations on Land in the Maritime Radio Services. (Stations authorized to operate in the band 73-74.6 MHz as of December 1, 1961, may continue to operate in this band and are not required to afford protection to the radio astronomy service.)

MHz	MHz	MHz	MHz
72.02	72.36	72.80	75.66
72.04	72.38	72.82	75.68
72.06	72.40 1/	72.84	75.70
72.08 1/	72.42	72.86	75.72
72.10	72.46	72.88	75.74
72.12	72.50	72.90	75.76
72.14	72.54	72.92	75.78
72.16 1/	72.58	72.94	75.80
72.18	72.62	72.96 1/	75.82
72.20	72.64	72.98	75.84
72.22	72.66	75.42	75.86
72.24 1/	72.68	75.46	75.88
72.26	72.70	75.50	75.90
72.28	72.72	75.54	75.92
72.30	72.74	75.58	75.94
72.32 1/	72.76	75.62	75.96
72.34	72.78	75.64 1/	75.98

1/ These frequencies are shared, on a secondary basis, by the Radio Control Radio Service until [5 years after the effective date of the rule change].

(b) Mobile radio remote control of models may be found operating on frequencies 10 kHz removed from these frequencies authorized for fixed and mobile operations in the 72-76 MHz band. Such use by the mobile radio remote

75.65
75.67
75.69
75.71
75.73
75.75
75.77
75.79
75.81
75.83
75.85
75.87
75.89
75.91
75.93
75.95
75.97
75.99

* * * * *

(d) Your R/C station must stop transmitting if it interferes with:
(1) Authorized radio operations in the 72-76 MHz band; OR
(2) Television reception on TV channels 4 or 5.
(e) Authorization for the use of the following frequencies is withdrawn effective [5 years after the effective date of the rule change]: 72.08, 72.16, 72.24, 72.32, 72.40, 72.96 and 75.64 MHz

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3. Section 95.219 (R/C Rule 19) is amended by revising the section to read as follows:

§95.219 (R/C Rule 19) How much power may my R/C station use?

Your R/C station transmitter power output must not exceed the following values:

CHANNEL	TRANSMITTER POWER (carrier power)
27.255 MHz	25 watts
26.995-27.195 MHz	4 watts
72-76 MHz	0.75 watts

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§ 95.617 Emission limitations

(a) * * *

(b) The authorized emission bandwidth of any transmitter:

(1) In the Radio Control Service shall be 8 kHz unless single sideband modulation is used in which case bandwidth shall be 4 kHz;

(2) In the Citizens Radio Service, employing amplitude modulation, shall be 8 kHz for double sideband and 4 kHz for single sideband;

(3) In the General Mobile Radio Service, employing frequency modulation or phase modulation shall be 20 kHz.